

Safety for whom? The scattered global financial safety net and the role of regional financial arrangements

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Safety for Whom?

The Scattered Global Financial Safety Net and the
Role of Regional Financial Arrangements

Laurissa Mühlich and Barbara Fritz

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SAFETY FOR WHOM?

THE SCATTERED GLOBAL FINANCIAL SAFETY NET AND THE ROLE OF REGIONAL FINANCIAL ARRANGEMENTS

Laurissa Mühlich and Barbara Fritz

Abstract

The global financial safety net provides backstop during times of financial crises. Its elements underwent fundamental changes since the global financial crisis. The International Monetary Fund (IMF) introduced new facilities on the global level, new regional financial arrangements (RFAs) were created, and bilateral swap agreements emerged as a new element. In this paper, we ask how these changes influence the use of the different safety net options, and what role RFAs have in the safety net today. We created a database with all the cases in which a RFA member drew on one of the elements of the global safety net. This allows us to analyze which other options the country had at hand, and to examine their use along the institutional design in terms of timeliness, volume, and policy conditionality. We find today's global financial safety net to be not a global, but a geographically and structurally scattered net. RFAs make the safety net safer only for small member countries. Just few countries can count on a bilateral swap line, their selection being subject to the discretion of the swap partner. Thus, a large number of countries fall through important knots of the safety net and have the IMF as their only option.

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1. Introduction¹

Financial systems are indispensable to the functioning of modern economies. They link savings with the funding of investment and allow entrepreneurs to realize innovative ideas. However, they also bear the risk of instability and crises, as historical experience shows.

The understanding of these instabilities has changed over time. During the so-called period of “Great Moderation,” the perception was that financial systems both at the domestic and the international level did not require any specific safety net, provided that domestic policies were adequate to assure price stability together with flexible exchange rates (i.e., Rose 2007). The global financial crisis of 2008/2009 (hereafter “the financial crisis”) changed this perception, as it hit advanced economies and spilled over to emerging markets and developing economies.

The system of financial institutions and conventions that governs international financial flows and international financial stability is also called global financial safety net (hereafter “the global safety net”). It is defined as the

set of financial resources and institutional arrangements that provide a backstop during a financial or economic crisis. The safety net is a form of insurance against crises that affect a country’s external payments. By addressing this risk to domestic economies, the safety net supports the stability of the international monetary system (Hawkins et al. 2014: 2).

As with any insurance, in the best-case scenario, the global financial safety net is not necessary because for the most part countries can handle their problems by themselves. Yet, there may be situations where a country cannot fulfil its external obligations, that is, pay imported goods or service debts, and private financial actors are not able or willing to provide further liquidity. In these situations, the global safety net comes into play with options to prevent a further deepening of a crisis. The financial crisis, together with the subsequent increase in the size and volatility of cross-border financial flows, which resulted from financial liberalization in advanced and emerging market economies up to the 1990s, has triggered substantial changes in the nature, size, and use of the global safety net.

The global safety net has gained additional options and complexity over time. First, the global element is the International Monetary Fund (IMF) as one of the founding institutions of the post-WWII global monetary order of Bretton Woods. Second, and partially due to the problems associated with the IMF, since the 1970s regional financial arrangements (RFAs) have been created in different parts of the world. Third, with the turmoil of the financial crisis, bilateral liquidity support through swap lines emerged. These are mutual credit contracts between central banks. Thus, since then, the global safety net consists of three different options – the IMF, bilateral swap lines, and RFAs – each of them following its own logic instead of constituting a first-best coordinated mechanism of the its different elements. Recent attempts to coordinate

¹ We conducted parts of the research at the Kolleg-Forschergruppe (KFG) “The Transformative Power of Europe,” hosted at the Freie Universität Berlin. We thank Tanja Börzel, Stefano Palestini, Thomas Risse, Ulrich Volz, and the KFG colleagues for excellent comments and suggestions on the previous versions of this paper. We also thank Jonathan Dürr, Elia Braunert, and Eva Samperi for valuable research assistance.

these options at the global level have failed so far (Helleiner 2014; Volz 2016). Hence, the three elements analyzed here are second-best options.

We find that economic literature mainly concentrates on the analysis of single elements or provides a rough overview of all elements (i.e., Aizenman/Pasricha 2010). Certainly, the IMF is the most analyzed institution in this context (i.e., Grabel 2011; Fritz et al. 2016). There are also a number of studies on regional arrangements between developing countries and emerging markets. However, only few scholarly contributions provide a systematic comparative perspective on the whole global safety net (i.e., Volz 2016). Mostly, studies concentrate on the comparison of one or two elements, asking, for instance, if regional financial mechanisms serve as a substitute for or as a complement to the IMF (i.e., Henning 2002; McKay et al. 2011). We could not find a study that empirically compares all elements of the global safety net in a systematic manner.

The present paper aims at increasing our knowledge on the structure of the global safety net as a whole by analyzing the use of the currently existing three elements – the IMF, bilateral swap lines, and RFAs. We ask what drives the choice that countries make when drawing emergency liquidity from one of these three elements of the global financial safety net in times of crisis. We are specifically interested in the role that RFAs play in the safety net. Since the financial crisis has considerably changed and widened the options for short-term liquidity provision in the global safety net – mainly through newly introduced short-term facilities offered by the IMF on the global level and the increasing number of bilateral swap agreements – we ask how this change has influenced the use of RFAs.

The global safety net includes bilateral agreements and regional arrangements between advanced economies, emerging markets, and developing countries. Out of these, we focus our analysis on emerging markets and developing economies which are members of an RFA.² Theoretically, these countries can opt for the IMF and/or the regional mechanism, and in some cases, they additionally have the option of recurring to the support of the central bank of another country through a swap line. Our analysis compares all major existing RFAs: the Latin American Reserve Fund (FLAR, Fondo Latinoamericano de Reservas) in South America, the Arab Monetary Fund (AMF) in Northern Africa, the Chiang Mai Initiative Multilateralization (CMIM) in Southeast Asia, and the Eurasian Fund for Stabilization and Development (EFSD, former EURASEC Anti-Crisis Fund, ACF) in Asia and Eastern Europe.

For the members of these four regional bodies, we analyze all cases in which a financing program has been agreed on either with the RFA or the IMF, or in which a swap agreement with a foreign central bank has been concluded. For each case, we ask which other options were available and examine the institutional design regarding timeliness, volume, and the existence of policy conditionality connected to the liquidity

2 We are aware that such focus excludes part of the global safety net, especially the European Stability Mechanism (ESM). Nevertheless, we focus on RFAs between emerging market economies and developing countries. In these countries, financial crises usually involve balance-of-payments and external liquidity problems that have to be dealt with by a third-party actor at the international level. In contrast, advanced economies' financial crises in most cases are solved at the domestic level and do not require the involvement of a third-party actor (see section 2). In the case of ESM, the member countries have no choice to opt for a specific element of the global safety net. Rather, the so-called Troika unifies the intervention both of IMF and regional institutions, and ties liquidity provision to a common set of policy conditionality.

provision. Based on the annual IMF, World Bank, regional and country-level data, we construct a dataset with 381 cases of 50 RFA member countries between 1976 and 2015.

Our hypothesis is that both changes since the financial crisis – the creation of new short-term lending facilities of the IMF which are offered on pre-qualification as well as the emergence of central banks swaps of advanced and emerging economies to some countries – reduce the drawing on RFAs. At the same time, we expect regional mechanisms to remain a relevant and valuable option for tackling financial needs in case of crisis for the large group of economies that are not likely to be offered a swap line by an emerging or advanced economy's central bank and that do not qualify for the new type of non-conditional IMF lending.

We concentrate our analysis on a rational choice framework that departs from theoretical underpinnings of balance-of-payments crises models. At the same time, we are aware that the decision about where to request emergency funding may be driven by multiple factors, such as power asymmetries and ownership. We include these aspects as far as possible within our analysis of the governance structure of the regional mechanisms.

The paper is organized as follows: in the following second section, we briefly sketch the theoretical grounds for liquidity provision in case of financial crises. Part three analyzes the three different options of the global safety net, including a systematic comparison of the four existing regional financial arrangements in Latin America, Southeast Asia, Northern Africa, and Asia/Central Europe. In part four, we empirically analyze and compare the options available for drawing on emergency liquidity for our set of countries. Section five concludes.

2. Financial Crisis Models: Theorizing Liquidity Provision of the Global Financial Safety Net

The concept of the financial safety net as an insurance requires the definition of when and under what conditions this insurance can be drawn. Two risks emerge here: first, the potential abuse of the insurance as a substitute for domestic policy reforms in case of financial crises, and second, the risk of losing the credit for the insurer if the borrowing country is not able to repay. Both issues are treated within the economic literature that emerged in the context of increased turmoil in financial markets since the breakdown of the Bretton Woods system in the 1970s that stimulated interest in theorizing financial crisis events. Several generations of models for balance-of-payments crises developed during the 1980s and 1990s. Central to these models is the idea that there is a limited stock of an asset (foreign reserves in the case of pure balance-of-payments crisis, and government revenue in the case of sovereign debt crises), which is depleted by either policy errors or investors' flight, or a combination of both.

The first generation of balance-of-payments crises models explains attacks on a currency with a fixed exchange rate by rational expectations due to inconsistent government policies or flight out of public bonds. In this case, public debt is unsustainable (Krugman 1979). Interestingly, the capital flight here sets in before foreign exchange reserves are exhausted, when investors expect that reserve losses are on an unsustainable path.

Translated to the question of financial crises resolution, in this case, external liquidity provision aims at limiting the fallout to the real economy. Yet since here, the cause of the default is an unsustainable fiscal stance, any liquidity provision from outside has to be conditioned to an adjustment program to achieve a rebalancing of public finance and to prevent moral hazard. In addition, if no adjustment path is perceivable because the existing debt stock is already too high, adjustment has to be implemented in combination with a debt restructuring.

The mechanism is different in second-generation models (i.e., Obstfeld 1996), which do not necessarily assume such a clear-cut policy failure as the starting point. The second-generation models include the possibility of multiple equilibria for countries with economic policies that are not clearly unsustainable.

This setup leads to the possibility of a self-fulfilling debt or fiscal crisis, as Cole and Kehoe (1996) have shown. The logic here is simple: whether an entity with a moderate, yet not extremely high level of debt is able to service its debt depends on the expectations of market participants. As a shift in expectations can trigger a crisis in these models even without a change in underlying fundamentals, it is difficult to point out one specific reason for a crisis to occur (Krugman 1999).

The catch in these models is that if a third party can guarantee continued access to loans at sensible interest rates, expectations will permanently stabilize in the “good” equilibrium and a self-fulfilling crisis is thus no longer possible. The third-party action would help avoid huge costs for the economy in case of successful crisis prevention. The need for adjustment programs, i.e., the prevention of moral hazard, is much less clear under such a self-fulfilling crisis than in the first-generation models: of course, a lower debt-to-GDP ratio might make a crisis less likely, yet, as expectations might have triggered the crisis, they are no necessary condition for solving it. In some cases, austerity can lower GDP in a way that the debt-to-GDP level actually increases (Holland/Portes 2012).

Timeliness and sufficiency of liquidity provision are key criteria for successful intervention of the third actor. Crisis prevention or effective crisis management necessitates fast reactions with volumes high enough to change investors’ minds. The shorter the time needed to respond to a borrowing request with the disbursement of an adequate amount of immediately available finance or guarantees, the more successful the financing option in the reduction of financial vulnerabilities. The size of available funds needs to be large enough to provide the country threatened by an imminent balance-of-payments crisis with a suitable credit volume (see McKay et al. 2011 on the difficulties of defining “suitable”).

Third-generation models of financial crises (i.e., Corsetti et al. 1998) have emerged in the context of emerging-market financial crises. These frameworks add to second-generation models the aspect of reinforcement of the negative consequences of international debt, domestic financial crises, and the overshooting of the exchange rate. They signal the relevance of smooth and decisive action to stop these crises in terms of timely and sufficient external liquidity provision to prevent spill-over to the real sector and to other countries. If the involvement of the third-party actor has to be bound to conditionality, it is again an empirical question what triggered the capital outflows and the financial crisis: domestic policy failures or the changed perception of investors due to external shocks, such as a crisis in a neighboring country?

In all types of balance-of-payments crises in emerging-market and developing countries, the third actor has to come from outside the country. Domestic institutions, such as the central bank of the country under stress or an emergency fund at the domestic level, cannot tackle the lack of liquidity. Emergency liquidity has to be provided in foreign currency since in these countries international debt is overwhelmingly denominated in foreign currency.

The second risk for a global safety net as an insurance is the risk of loss of the provided funds. Thus, it is key for the third-party actor to distinguish between problems of liquidity and solvency. Insolvent entities are defined as being unable to serve their obligations in the medium and long term, even if provided with additional short-term liquidity. Providing liquidity for an insolvent entity therefore means that the postponement of the insolvency leads to increased costs (cf. Fritz et al. 2016). Thus, before any of the actors involved in the global safety net starts helping out a country under financial stress, it should be verified that the country is solvent in the medium and long term.

3. The Three Elements of the Global Financial Safety Net: Global, National, and Regional Options

Countries can choose which external creditor to address in case of a financial crisis if they have several available options. Three different elements of the global safety net are commonly referred to: the IMF, bilateral central bank currency swaps, and RFAs. As a fourth element, national reserves accumulation is frequently mentioned. However, little empirical evidence exists that large stocks of reserves are indeed a striking defense mechanism against a balance-of-payments crisis.

Foreign exchange reserves are not really an insurance mechanism: they do not pay back a fraction of the costs, they are only meant to reduce the odds of a crisis. [...] In theory, there is little doubt that large reserves may deter crises, but there is no guarantee that the deterrent is always effective (Wyplosz 2007: 13).

Foreign exchange reserve stocks may be large but not large enough to buffer rapidly increasing speculative financial positions.³ The following analysis hence concentrates on cases in which a country's access to market liquidity is not sufficient and a third party is involved with providing short-term liquidity to respond to the crisis. In sections 3 and 4, we compare cases in which a country chose one of its available elements of the global safety net to agree on a financing program, even if the latter may not be drawn on by the country since the signal of the mere agreement on a RFA or IMF program or a swap line may shift market expectations to the "good" equilibrium (see section 2).

3 The case of South Korea during the financial crisis showed that even a supposedly large stock of foreign exchange reserves may fall short of reducing vulnerability to an external shock (Aizenman 2010: 6): "During the first stage of the 2008-9 global liquidity crisis, Korea's reserves [declined by] about 25%. [...] observers noted that, despite the large hoarding of IR [international reserves] used to finance the bailout package, market concerns were not abated." In fact, Aizenman et al. (2011a) find that regional and bilateral arrangements dominate national foreign exchange reserve hoarding as precautionary measure.

3.1 The Global Element: The International Monetary Fund

After the Second World War, the International Monetary Fund (IMF) was founded to control exchange rate stability and prevent major global distortions. After the breakup of the system of fixed exchange rates in the mid-1970s, member countries adopted flexible exchange rate regimes. The IMF then was no longer overseeing a regulated global monetary system but became the trouble-shooter in an unregulated global monetary “non-system” (Williamson 1976). Especially with the liberalization of capital accounts in emerging-market countries, requirements changed: the speed as well as the volume of liquidity provision became increasingly important. Besides, reform requirements for countries asking for support became a highly disputed issue especially during the 1990s.

In reaction to changed circumstances and critique, the IMF overhauled its financing facilities (IMF 2014). Conditionality in standard IMF programs traditionally is designed *ex post* by imposing certain obligations on the borrowing country and by linking the disbursement of credit tranches to the fulfilment of these conditions. While the standard stand-by arrangements were only slightly revised, the much criticized *ex post* conditionality was dispensed in a series of newly introduced credit lines such as the Supplemental Reserve Facility in 1997, the Contingent Credit Line in 1999, and the Flexible Credit Line in 2008. This type of precautionary line is open to countries with “very strong fundamentals, policies, and track records of policy implementation” (IMF 2009). The *ex-ante* conditionality also implies quicker disbursement, as there is no time required for the negotiation of the terms. As the majority of member countries did not draw from these new credit lines, in 2011 another facility was created – the Precautionary and Liquidity Line – which is open to “countries (that) face moderate vulnerabilities and may not meet the FCL qualification standards” (IMF 2016a), applying “focused conditions” (IMF 2016a) combined with pre-qualification.

Regarding the timing of liquidity provision which had been criticized for being too slow, the IMF introduced the Emergency Financing Mechanism already in the mid-1990s. This mechanism applies “when a member country faces an exceptional situation that threatens its financial stability and a rapid response is needed to contain the damage to the country or the international monetary system” (IMF 2016b). It authorizes the IMF Executive Board to take a decision on the request within 48 to 72 hours after a program has been agreed upon with the requesting member country.

Regarding the critique that its credit volume was not sufficient to address major financial crises, the IMF multiplied its funds after the financial crisis. By mid-2015, the IMF had about \$420 billion readily available for new non-concessional lending compared to \$202 billion in 2007 (so-called forward commitment capacity; see IMF 2015). In addition, the New Arrangement to Borrow was introduced that allows 26 member countries to lend 34 billion SDR⁴ to the IMF (IMF 2016c). In 2010, it additionally expanded to 367.5 billion SDR (about \$517 billion)⁵ with new lending member countries. Additional, bilateral borrowing agreements

4 “The SDR is an international reserve asset, created by the IMF in 1969 to supplement its member countries’ official reserves. The value of the SDR is currently based on a basket of four major currencies: the US dollar, euro, the Japanese yen, and pound sterling. The basket will be expanded to include the Chinese renminbi (RMB) as the fifth currency, effective October 1, 2016” (IMF 2016f).

5 Current SDR figures as of 1 April 2016: 1 SDR = 1.4 USD.

supplement the IMF's resources with a total volume of about \$380 billion. In sum, the Fund's current total lending capacity adds up to \$950 billion (IMF 2016d).

With the growth of the IMF's lending volume, the access limit for its member countries constantly increased. Meanwhile, a member country can borrow short-term up to 200 percent of its quota annually and 600 percent cumulatively. Even higher access limits are made possible in "exceptional circumstances" (IMF 2016e). However, such higher or even exceptional access limits are not immediately available but need to be negotiated. Finally, a large quota reform, decided upon in 2010 and ready to be implemented in 2016, will not only augment the IMF's resources to about \$660 billion (IMF 2016d) but also respond to the criticism on its governance structure: the share of votes of emerging markets and developing countries will increase to reflect the current global economic situation. Brazil, China, India, and Russia will then be among the ten largest member countries of the IMF.

3.2 The New Bilateral Option: Central Bank Currency Swaps

Bilateral central bank currency swaps – swaps, swap agreements, or swap lines – are bilateral arrangements for short-term liquidity provision between the central banks of two countries. These arrangements gained momentum in response to the financial crisis for short-term emergency financing.

In contrast to the institutionalized forms of short-term liquidity provision of the IMF and the RFAs, bilateral currency swaps are a non-institutionalized and highly discretionary policy instrument. McNamara (2016) categorizes bilateral swaps as a new form of market-led regional financial governance in contrast to the IMF and RFAs as state-led (global and regional) monetary governance.

While bilateral swap agreements were used already from the second half of the 20th century onwards, they gained relevance during the financial crisis. The Federal Reserve Bank of the United States (FED) initiated the current swap boom by starting bilateral swap agreements over a very short term with 14 central banks of advanced and emerging economies in response to the financial crisis, with a total volume of \$580 billion at its peak in 2008 (Destais 2014). In 2013, a number of advanced economies' central banks agreed to make the swap agreements permanent.⁶ So far, only advanced economies and selected emerging markets offer central bank currency swaps. In particular, in the region of Southeast Asia, swap lines have grown substantially in number. This huge increase is driven by China: At the end of 2014, the People's Bank of China (PBOC) had 24 active swap lines with a total amount of about \$420 billion (Destais 2014). Over the last year, their number and volume increased by at least another ten agreements to about \$485 billion (i.e., Li 2015; Zhu 2015).

Systematically researching swap agreements turns out a difficult endeavor since information and data about the offer and particularly the actual use of swap lines are only partially available to the public. Based on the available information, we can state that swap lines seem to be the timeliest short-term financing

⁶ The FED holds permanent swap lines with the central banks of Canada, England, the Euro area, Japan, and Switzerland (FED n.d.).

mechanisms provided in the global safety net. Once a swap line is agreed upon between the two contracting central banks, liquidity can be drawn immediately, denominated in the currencies agreed upon. We could not find any empirical evidence on the average time needed to negotiate an agreement.

Usually, no policy conditionality applies to swap lines: “Central bank swaps do not include surveillance, and conditionality is limited to the use of the proceeds of the swaps [...] not the economic policy as in the case of IMF facilities” (Destais 2014: 7). As we will see, nation-specific motives of the swap-offering central banks determine which countries are offered a swap line (see section 4).

3.3 Regional Financial Arrangements

A key motive for creating regional financial arrangements (RFA) for developing countries and emerging markets has been the lack of adequate short-term liquidity provision on the global level. In this vein, Eichengreen (2006: 9) argues that “in the absence of a global fund, the insurance in question could be provided by a regional pool of reserves.”

Among many forms of monetary and financial cooperation mechanisms, RFAs are the instrument that aims at providing short-term finance to respond to balance of payments difficulties. An RFA is understood here as an agreement by a group of countries to provide each other with short-term financial support in case of balance-of-payments problems (see e.g., McKay et al. 2011; Mühlich 2014). RFAs are set up as a regional pool of national foreign exchange reserves. Alternatively, a less binding form is a regional network of bilateral swap agreements. Member countries regionally determine the design of enforcement and conditionality criteria. Hence, RFAs differ with regards not only to their volume and timeliness of liquidity provision but also with regards to their conditionality criteria and surveillance mechanisms.

While RFAs have always been seen as an alternative to a supposedly missing global mechanism designed to achieve macroeconomic stability and development, the specific motivation to cooperate through the regional sharing of liquidity has changed over time. We observe three different phases: First, during the 1980s, RFAs were motivated by the need to develop alternative financing mechanisms to declining international capital inflows during and after severe debt crises, mainly in Latin America. In the face of the evolving Latin American debt crises of the 1980s, the Latin American Reserve Fund (FLAR) was founded as a regional self-insurance mechanism. Within this first wave of RFAs, given the excess liquidity due to the oil-price boom in the early 1970s at least in the oil-rich member countries, the Arab Monetary Fund (AMF) was created with the aim to redistribute wealth in the region through a shared liquidity reserve that would provide credits to less well-off countries. Second, the series of financial crises in emerging economies at the end of the 1990s led to the perception that independent regional crisis prevention would be needed in order to avoid inadequate conditionality by IMF programs. It is in this context that the Chiang Mai Initiative (CMI) was launched. Third, in the face of the volatility caused by the global financial crisis, the initiative was multilateralized and strengthened in terms of volume and institutional design to today’s Chiang Mai Initiative Multilateralization (CMIM) (Grimes 2015). Similarly, the Eurasian Fund for Stabilization and Development (EFSD) (formerly known as the Eurasian Anti-Crisis Fund (ACF)) was set up in response to global financial

volatility in and after the financial crisis. Apart from the member countries involved, the context of the founding motives for each RFA may explain the respective arrangement's volume, timeliness, and policy conditionality and its utilization by the member countries (see the case studies on each of the four RFAs in Annex I and Table 1 for further details).

Compared to the volume the IMF commands, regional funds obviously provide a comparatively smaller insurance framework. The longest standing RFAs, the FLAR and the AMF, have a small volume of about \$3.6 billion and \$2.7 billion, respectively. At the time of their founding, much smaller borrowing volumes were required. In contrast, more recently founded RFAs are equipped with a higher volume. The CMIM stands out with the largest volume of \$240 billion. The volume of the EFSD is considerably smaller with about \$8.5 billion.

Yet, whether an RFA's volume is sufficient for a member country in times of crisis depends, among other factors, on the relative size of this member country within the RFA (see Annex I). The more economically asymmetric an RFA,⁷ the larger the benefits in terms of volume since larger economies are able to contribute comparatively higher shares to the fund. We characterize the RFA member countries as "large" or "small" not based on sheer GDP measure but depending on their relative liquidity need in case of a balance-of-payments crisis. To assess the sufficiency in terms of volume of a regional fund, we consider a country's respective access limits in the regional fund compared to its IMF access limit. The average share of a country's RFA access limit compared to its IMF access limit is 80.5 percent. We determine a country as small if its regional access limit is higher than or equal to 80 percent of its access limit at the IMF (see Annex I).

In most cases, the fund would not provide sufficient financial volume for larger member countries. At the same time, larger member countries are most often a hub for intraregional trade. They benefit from the backing of their regional export markets by the RFA (Kawai/Lombardi 2012).

Alongside the absolute volume of a regional fund, the patterns of its use determine its sufficiency in terms of volume. Heterogeneous macroeconomic policy stances or business cycles of the member countries are beneficial to regional reserve pooling since the participating countries' demand for liquidity differs in time and volume in order to avoid simultaneous drawings, which would exceed the volume of available pooled reserves (Imbs/Mauro 2007).⁸ Whether pooled liquidity is drawn simultaneously or not depends on whether simultaneously hitting shocks and related contagion effects impact member countries symmetrically or asymmetrically. In the FLAR, member countries benefit from the ease and speed of liquidity provision of rather small volumes for rather small economies at different times in reactions to different national

7 Here, we refer to a static understanding of asymmetry: Regional asymmetry is a relational, not an absolute concept (Womack 2016). Regional asymmetry is a situation in which different economic size and financial or monetary structures of the member countries imply different degrees of vulnerability to external shocks. The larger countries are less exposed to unilateral economic, financial, or monetary policy decisions than the smaller countries.

8 Here, a dynamic understanding of regional asymmetry is referred to: Asymmetric development or the presence of heterogeneous macroeconomic policy approaches causes not only differences in business cycles, economic growth, capital in- and outflows, and exchange rate dynamics but also differences in the speed and character of policy reactions to crises (UNCTAD 2011).

or global shocks (Machinea/Titelman 2007). The AMF is also characterized by asymmetry between two groups of countries: net oil importers and net oil exporters. The purpose and design of the AMF is partially based on such asymmetry. In CMIM and EFSD, a single country or a small group of countries stands out in terms of economic size. Hence, the regions are sufficiently asymmetric in terms of economic size and structure to avoid simultaneous withdrawals from the respective fund.

A key argument often brought forward as an advantage of regional funds is that, compared to the IMF, they can be easier and more rapidly accessed than the Fund's resources. FLAR is known for its timely response to loan requests. Rosero (2014: 82) reports 28 days on average. Similarly quick is the average response by AMF, where a lean decision structure allows rapid response to loan requests. The available documentation of the hitherto two loan disbursements by the EFSD suggests an internal decision time of between two and eight weeks. (EFSD n.d.a; EFSD n.d.b). In the case of CMIM, an assessment is difficult since the mechanism has not been used so far. However, the fact that borrowing above 40 percent of quota requires the existence of an IMF program can be expected to cause delay in decision-taking (for more details, see Table 1 and Annex I).

Regional arrangements enable regionally adapted means of policy response rather than "one size fits all" solutions as is the case on the global level. Rules and conditionality involved in financial support can be adapted in the course of cooperation (Birdsall/Rojas-Suarez 2004; Ocampo/Titelman 2010). Such regionally designed rules not only enhance a regional ownership towards the use of the shared funds, they can also be better adapted to regional needs than, for example, IMF criteria on the global level. The more asymmetric the region, the more difficult it is to design conditionality and enforcement mechanisms that would satisfy each member country's needs. *De facto*, FLAR does not impose conditionality at all. Country policy papers are requested upon loan disbursement but hitherto, they have always been accepted. So far, FLAR has shown a redemption rate of 100 percent. In the case of FLAR, there is an understanding in the literature that the sense of ownership is able to replace the need for strong lending rules (i.e., Ocampo 2006). AMF offers most credit lines conditioned to a reform program. EFSD essentially provides only one line of credit for emergency financing that requires a reform program whose implementation is rigorously accompanied by the fund for disbursement decisions. Furthermore, a borrowing country may not be in arrears either with the EFSD, any of its member countries or any other international institution. In the case of Belarus, disbursement of the third credit tranche has been postponed and finally cancelled due to the country's failure to fulfill the conditions (EFSD n.d.c). In contrast, CMIM links its liquidity disbursement for withdrawal of funds of above 40 percent of a member country's quota to the existence of an IMF program. In the case of CMIM, high asymmetries in terms of economic size between Japan, China, and South Korea on the one hand and Vietnam or Myanmar on the other hand render a decision on regional solutions for mutual surveillance and conditionality difficult (i.e., Grimes 2015; Kawai/Park 2015). The region aims at precluding moral hazard issues by linking the regional fund to the global oversight function of the IMF.

Table 1: The Four Regional Financial Arrangements Compared

RFA	Year of establishment	No. of member countries	Volume	Size / regional GDP (in percent, 2014)	Resources	Policy conditionality	Timing
Latin American FLAR	1978 as FAR (1991 as FLAR)	8	\$3.6 billion	0.3	Pooled member resources (capital subscription) & market borrowing	De facto no conditionality	28 days on average. Prompt borrowing for emergency liquidity up to 100% of quota.
Southeast Asian CMIM	2000 as CMI (2010 as CMIM)	13	\$240 billion	1.3	Network of bilateral USD – local currency swap agreements	For amounts exceeding 40 percent of quota, IMF program required.	n.a.
Arab AMF	1976	22	\$2.7 billion	0.1	Pooled member resources (capital subscription) & market borrowing	Adjustment program required, except in two fast track facilities.	Prompt borrowing for up to 100% of quota (automatic loan, short term liquidity facility). Other loan categories: one to six weeks.
Eurasian EFSD	2009	6	\$8.5 billion	0.39	Pooled member resources (budget contribution)	In one of two loan categories, implementation of agreed policy measures required.	Estimated time for internal decision: two to eight weeks.

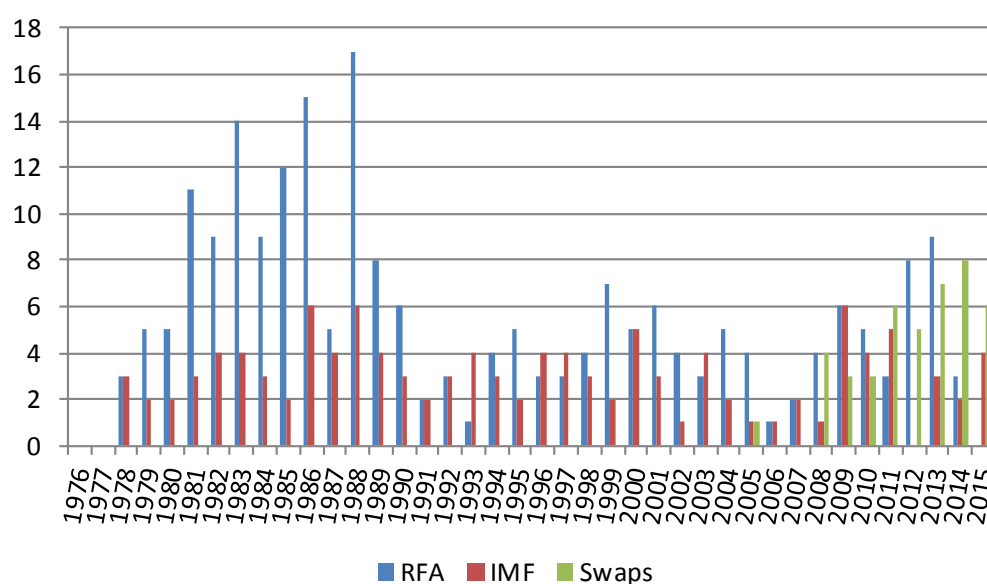
Sources: Authors' compilation based on IMF 2013; Rhee et al. 2013; McKay et al. 2011; FLAR 2014, n.d.a (data as of the end of 2014); AMF n.d.a; n.d.b (data as of the end of 2015); EFSD 2014, n.d.d (data as of the end of 2015, includes financial and investment loans). For further details, see Annex I.

4. The Use of the Global Financial Safety Net – Is There a Pattern, and What Role Do Regional Financial Arrangements Play?

How did the changes within the options of the different elements of the global safety net since the financial crisis impact the countries' choice? What role did timeliness of liquidity provision, its volume, and attached policy conditionality play for the changes in their choices? Does the regional level still contribute to the global safety net, and if so, how?

To answer these questions, we analyze the three elements of the global safety net in a comparative perspective, based on the empirical analysis of RFA member countries' choices between the three options in times of financial stress. The analysis is based on a sample of 381 cases in which one of the fifty RFA member countries of FLAR, AMF, CMIM, or EFSD agreed on a short-term financing program with either the IMF or the RFA, or in which a country's central bank agreed on a bilateral swap line with a foreign central bank. The data set includes only short-term financing options. Each RFA member country is included, beginning with the year when its membership started. The total time span of the data set ranges from 1976 to 2015.⁹

Figure 1: Number of Loan Agreements with IMF, Regional Arrangements (FLAR, CMIM, AMF, EFSD), and Bilateral Swap Agreements



Sources: Authors' compilation based on IMF n.d.; FLAR, AMF, and EFSD websites and Annual Reports; central bank websites; Garcia-Herrero/Xia 2013; Destais 2014; Eichengreen/Kawai 2014; Hill/Menon 2014; various media reports.

The use of the three different elements of the global safety net underwent substantial changes over time. Figure 1 shows that where a RFA of our sample exists since the end of the Bretton Woods era, it has been used frequently. RFA use reached its peak during the 1980s debt crises in developing countries. Overall,

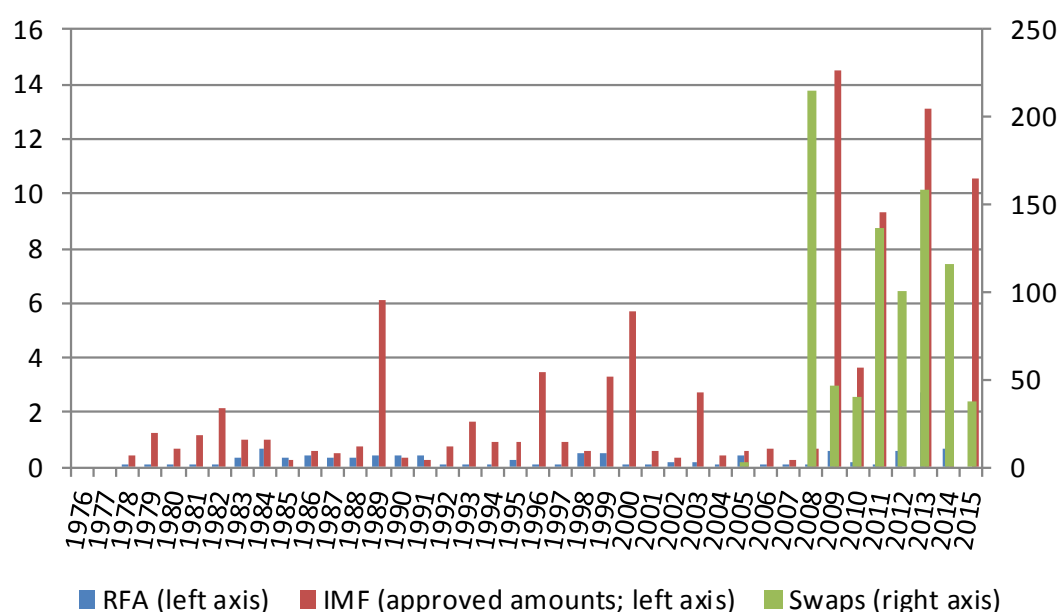
⁹ For a detailed description and presentation of the dataset, see Annex II. For a case study and detailed macroeconomic data of each RFA member country, see Annex I.

RFAs have been used more often than the IMF, in total 219 times, whereas the IMF has been used 117 times. While the IMF, with some ups and downs, has been in constant demand over the whole period of time of our sample, bilateral swaps became a key element of the global safety net only in the 2000s.

When looking at the volume disbursed by each of these elements in Figure 2, the picture changes considerably. First, while the RFAs' financial support still came close to the IMF in terms of volume during the 1980s and 1990s, it later has turned rather irrelevant from a global perspective. Their total lending volume amounts to \$11.7 billion over the period of our sample. At the same time, the IMF successively increased its financing volume for countries in trouble over the period. The total volume of agreed IMF programs amounts to about \$94 billion.

Second, as mentioned before, the financial crisis marks a major turning point in the global financial safety net. The IMF was by far leveled out in terms of volume by bilateral swap agreements. The total financing volume of existing swap agreements with the RFA member countries of our sample is about \$876.7 billion, of which 98 percent were concluded in or after the financial crisis. The agreed swap amount was thus about 16 times higher than the volume of IMF programs during that time, which amounted to about \$52.8 billion. Swap agreements were also used more often than the IMF between 2008 and 2015 (44 swaps; 24 IMF agreements). In terms of volume, RFAs played a minor role in response to the financial crisis with a total financing volume of \$4.9 billion, but with 38 uses, RFAs were requested more often than the IMF.

Figure 2: Agreed Amounts for Drawings from IMF, RFAs (FLAR, CMIM, AMF, EFSD), and Swap Agreements (in billion \$)



Sources: Authors' compilation based on IMF n.d.; FLAR, AMF, and EFSD websites and Annual Reports; central bank websites; Garcia-Herrero/Xia 2013; Destais 2014; Eichengreen/Kawai 2014; Hill/Menon 2014; various media reports.

Hence, since the financial crisis, swaps have replaced RFAs as the most used option for short-term financing in the global safety net. The IMF's role decreased, too. What explains this puzzling picture? A closer look into each of the three elements helps us understand the promises and pitfalls of the global safety net better.

4.1 The Role of the IMF – Why Did the Substantial Adjustments in Lending Terms Fail to Re-establish its Leading Role as Global Liquidity Provider?

Despite the substantial reforms of the IMF's lending terms, volumes, and conditionality analyzed above, the newly introduced and reformed non-conditional facilities have not been frequently used by its member countries. In our sample, these were only requested by Colombia and Morocco, both in the aftermath of the financial crisis. In Southeast Asia, none of the CMIM member countries requested an IMF program in response to the financial crisis. Thus, emerging markets and developing countries seem to aim at circumventing an IMF program in case of balance-of-payments crisis if possible. The fund itself recognizes the reluctance of its member countries to draw on the IMF's contingent short-term facilities:

While there has also been some informal interest from other members in these instruments [...], none has resulted in a formal request. At the same time, some EMs [emerging markets]—feeling vulnerable to heightened capital flow volatility but unwilling to request Fund arrangements—are seeking to expand regional financing arrangements (RFAs) and networks of bilateral swap arrangements (BSAs). Other smaller countries unable to participate in regional pooling are building substantial international reserve buffers for self insurance. To a large degree, this reflects the degree of political stigma related to Fund engagement that prevents some members from seeking preemptive Fund financial support (IMF 2014: 5).

The reform of conventional support with ex-post conditionality also does not seem to be very successful. While the Fund's support after 2008 was requested only 22 times, RFA assisted member countries 37 times, and swaps accounted for 40 arrangements in this short time span. Even if we do not analyze the decision-making process, our analysis of countries' choices confirms the findings in the literature. First, compared to the other elements of the global safety net, policy conditionality – whether applied *ex ante* or *ex post* – prevents many member countries from using the Fund's resources, in case they have alternatives available (i.e., Grabel 2011). Second, despite having speeded up its lending process already in reaction to emerging-market crises in the mid-1990s, the IMF is still slower than other sources of emergency financing. The Emergency Financing Mechanism, applied during the Asian crisis and in selected Asian, European, and Eastern European countries during the financial crisis, still was criticized for being too slow (Alabi et al. 2011). Third, despite the significant enlargement of its overall financing capacity, swaps outshine the IMF by large in terms of volume and numbers of use. Additionally, a significant group of countries could draw similar volumes at their RFA.

4.2 Bilateral Swap Arrangements: A Large, but Highly Irregular Network

Since 2008, swaps have been responsible for about 93.7 percent of total liquidity provision of the three elements of the global safety net in our sample. Thus, they currently represent the major source for emergency financing and the major innovation of the global financial safety net. A dense network of bilateral swaps covers especially the Southeast Asian region. Out of the 45 swaps, 34 have been concluded by CMIM member countries. With 24 agreements with a total volume of about \$417 billion, the PBOC accounts for the majority of swap lines. Their volumes differ, depending on the partner country's economic size, but in most cases they outsize IMF access limits. Especially in contrast to the IMF, swap lines are readily available once agreed and come without any policy conditionality.

Scholars have mixed views on the effects of swap agreements on the global financial and monetary system, mainly due to their selectivity (Destais 2014; see also Aizenman/Pasricha 2010). Their provision is subject to the decision of the economically stronger "offering" country. Aizenman et al. (2011a) find in a cross-country empirical investigation on 24 swap lines since 2007 that two main factors explain the offering of swap lines: close financial and trade links, which make financial stability of the "receiving" country relevant for the former. In the case of China, the main objective is to maintain and increase trade ties (Garcia-Herrero/Xia 2013).¹⁰

Out of the 45 swap agreements in our sample, 23 swaps have explicitly been agreed upon for liquidity provision in times of crises or for the purpose of crisis prevention, while 22 at least formally had other purposes. When excluding swaps with advanced economies of the CMIM'S plus three partner countries (China, Japan, and South Korea) out of the remaining 37 swaps, 20 have been agreed to prevent or respond to a crisis situation, while 17 have been concluded for other reasons, according to media reports.

As far as the little information available suggests (Aizenman et al. 2011), few swap lines have been actually used, including those related to crisis prevention or resolution. Hence, the sheer existence of an immediately available swap line is expected to have a positive signaling effect which might shift market expectations back to the "good equilibrium" (see section 2), as the above-mentioned case of South Korea also shows (see footnote 4).

4.3 The Role of Regional Financial Arrangements – Who Benefits?

Our empirical analysis of the use of the global safety net shows that the longer-standing RFAs in our sample are in use as a regional emergency financing option despite the rise of the new bilateral central bank currency swaps. More recently founded RFAs are used less frequently or not at all by their member countries. Which factors determine the use of the RFA in each region?

¹⁰ Additionally, China exploits swap lines for the internationalization of its currency. Since foreign exchange reserve accumulation in Chinese renminbi (RMB) is impossible, central banks swaps can be seen as a "temporary – and mostly symbolic – step" (Destais 2014: 6).

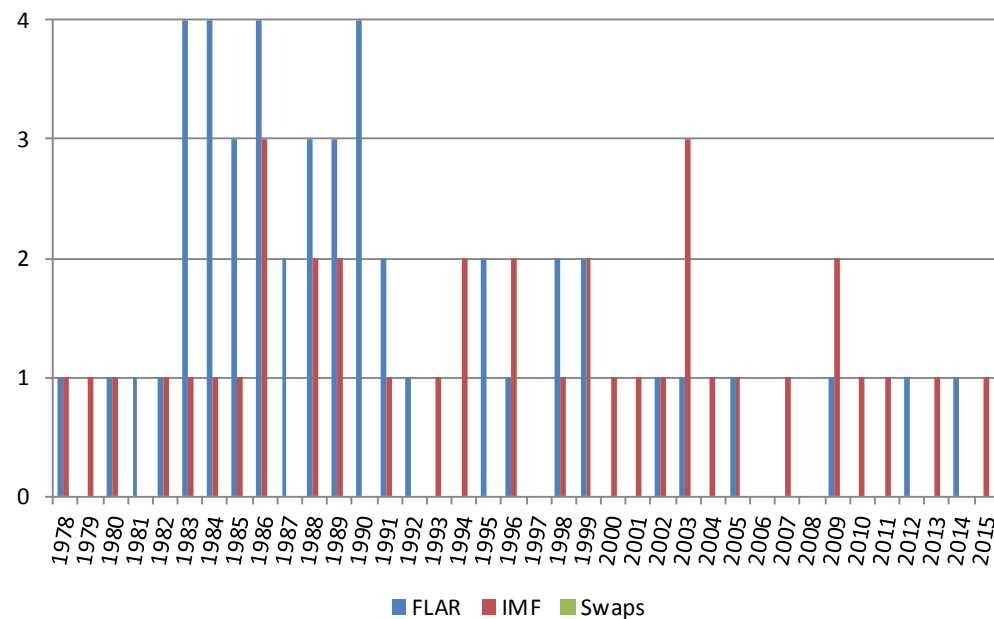
First, RFAs continue providing a potential safety net for around one third of their members. Even if RFAs by far account for the lowest overall volume, we find that about one third (16 out of the 50 countries in our sample) have a regional access limit that is equal to or more than 80 percent of their IMF access limit of up to the short-term accessible 200 percent of their quota per year. This applies especially to the smaller FLAR, AMF, and EFSD members. Since the ASEAN-5 CMIM member countries Indonesia, Malaysia, Philippines, Singapore, and Thailand are provided with regional access limits that are even higher than those of the region's smallest member countries, these countries would also find sufficient emergency financing regionally, according to our definition.

At the same time, our findings show that the actual use of RFAs depends not only on the provided financing volume but also on policy conditionality: if the latter imposes too harsh conditions or relates to the IMF, member countries seem to be reluctant to use the RFA, as in CMIM and also in some EFSD member countries. Beyond this global pattern, the regional mechanisms show striking differences in their use.

Over time, the FLAR (see Annex I.A) has been used 47 times, with an average drawing volume of about \$160 million. (see Figures 3 and 4). All member countries use the FLAR except Costa Rica and Uruguay (and Paraguay who just joined in 2015). It is especially in the FLAR that the smaller economies make more use of the RFA option than of other elements of the global safety net. This may be related to relatively large access limits compared to their IMF quota together with the *de-facto* no conditionality policy of the fund. Hence, for small members the FLAR may even substitute IMF lending, while in other cases both elements complement each other (Kawai/Lombardi 2012). Economically larger member countries, such as Colombia, have rather turned to the IMF than the regional safety net in recent years, while they used the FLAR more often until the 1980s/1990s. A combination with IMF drawings is not as often observable in the FLAR as in the AMF, for example. In ten cases, IMF and FLAR have been used in parallel, mainly in the 1980s and 1990s by Bolivia, Colombia, Ecuador, and Peru.

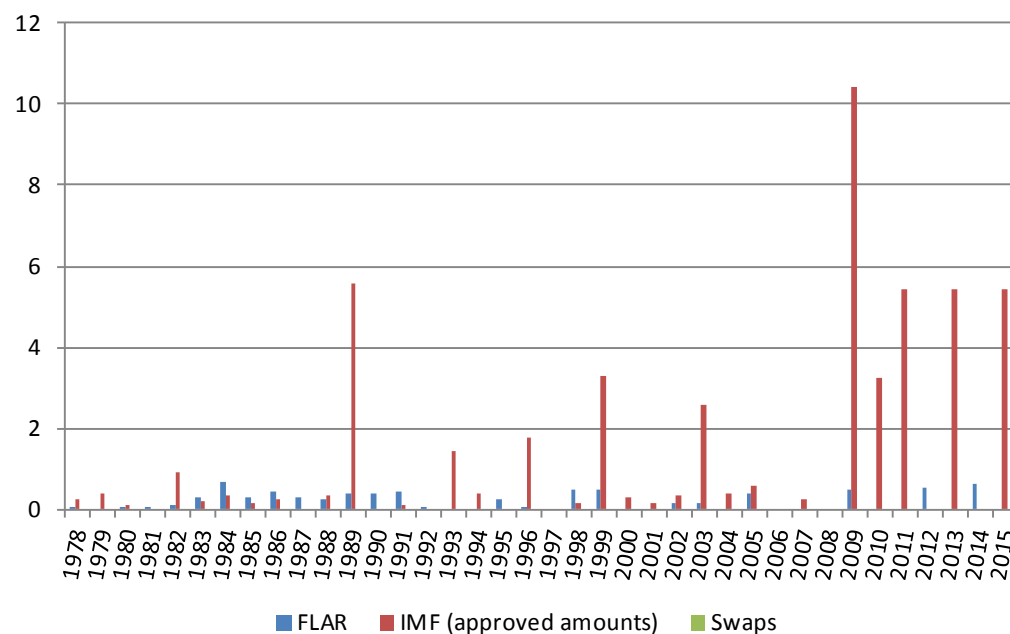
In our sample, the FLAR region stands out as the only region where no bilateral central bank currency swap agreement is in place. The fact that the FLAR region is not part of the recent boom in bilateral swap lines may explain its continuous use by its member countries. Instead, after the financial crisis, the average lending volume increased to about \$500 million.

Figure 3: Number of Agreements by FLAR Member Countries with IMF and FLAR and of Swap Agreements



Sources: Authors' compilation based on IMF n.d.; FLAR n.d.b; central bank websites; Garcia-Herrero/Xia 2013; Destais 2014; Eichengreen/Kawai 2014.

Figure 4: Volumes of Approved FLAR and IMF Programs (in billion \$)



Sources: Authors' compilation based on IMF n.d.; FLAR n.d.b; central bank websites; Garcia-Herrero/Xia 2013; Destais 2014; Eichengreen/Kawai 2014.

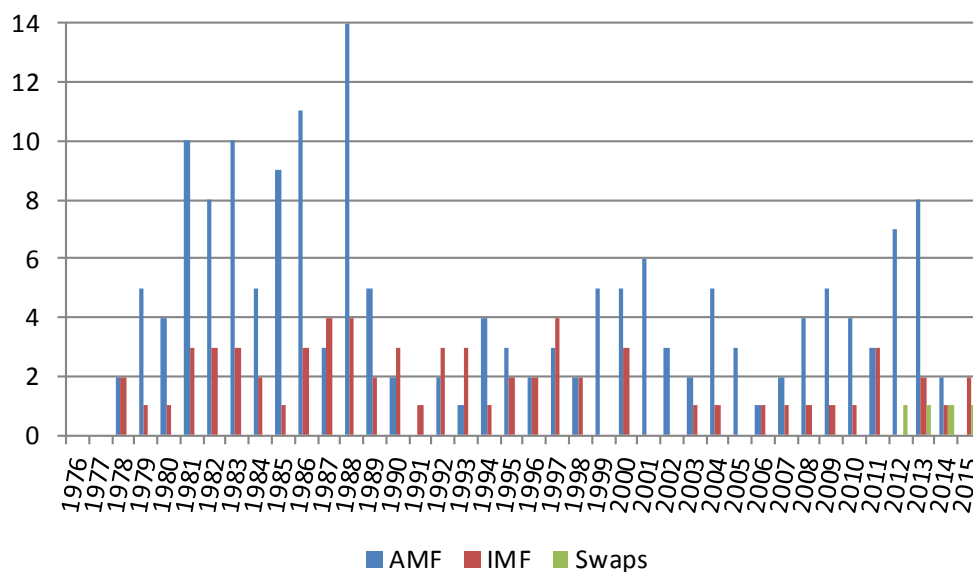
The AMF (see Annex I.B) is the most frequently used RFA in our sample. The fund has been used 170 times. At the same time, the average drawing volume is very small, amounting to \$10 million (see Figures 5 and 6). The smaller countries, some of which are oil importers such as Djibouti or Mauritania, make frequent use of the AMF, whereas the larger and oil-exporting economies, such as Saudi Arabia or the United Arab Emirates, did draw only a few times or not at all on the AMF so far. In the 1980s, with high oil price volatility, the fund was used much more intensively, also by larger economies, than in more recent years.

As mentioned above, the AMF provides relatively timely emergency liquidity at no conditionality for two fast track facilities, and with ex-post conditionality for all other facilities. Compared to the access limits of the IMF, the borrowable amounts in AMF cannot be considered sufficient, except in the case of the three smallest member countries, such as Somalia, Sudan, or Mauritania.

At the same time, we observe the parallel use of AMF and IMF facilities in 22 cases, hence, more frequently than in other RFAs. Apart from the fact that the relatively small amounts provided by the AMF may require most member countries to additionally draw on other means of emergency liquidity, the AMF had until recently also presupposed that an IMF program exists for a country that would draw from the ordinary or the extended credit line. Such presupposed complementarity is reflected in an intense parallel use of AMF and IMF during the Arab spring in 2011 and the devastating economic consequences in 2014. Hence, in times of crises, IMF and AMF programs seem to go hand in hand with their respective advantages in terms of timeliness, volume, and conditionality.

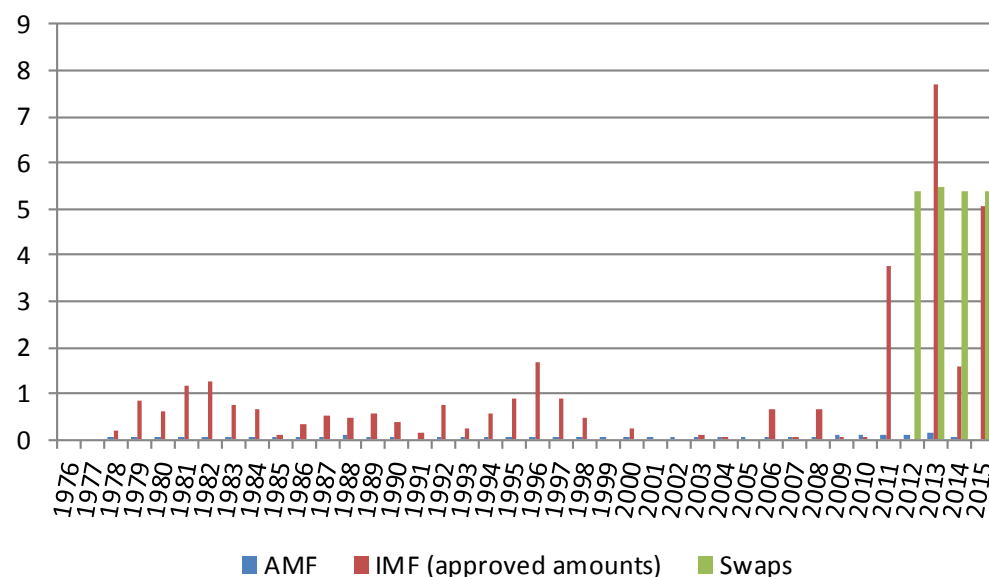
Recently, Qatar and the United Arab Emirates, who had used neither the RFA nor the IMF before, have entered swap agreements with the PBOC with more than double the volume of their access limit at the IMF. At the same time, after the financial crisis, the average lending volume doubled to about \$20 million.

Figure 5: Number of Agreements by AMF Member Countries with IMF and AMF and of Swap Agreements



Sources: Authors' compilation based on IMF n.d.; AMF 2015; Garcia-Herrero/Xia 2013; Destais 2014; Eichengreen/Kawai 2014; various media reports.

Figure 6: Volumes of Approved AMF and IMF Programs and Swap Agreements (in billion \$)



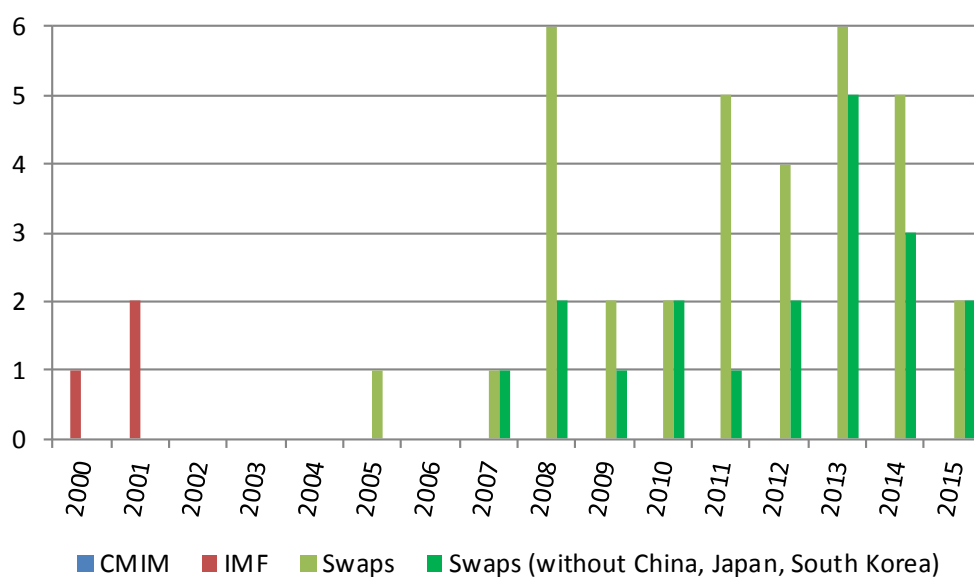
Sources: Authors' compilation based on IMF n.d.; AMF 2015; Garcia-Herrero/Xia 2013; Destais 2014; Eichengreen/Kawai 2014; various media reports.

The CMIM (see Annex I.C) represents the opposite case of the FLAR. The regional arrangement has not been used during its more than 15 years of existence, despite the fact that the majority of the member countries find high access limits in CMIM. At the same time, a high number of swap lines characterize the region, particularly since the financial crisis. Three CMIM member countries agreed on an IMF program with a total volume of \$5.5 billion, all of them before 2008. After the financial crisis, CMIM member countries exclusively turned to bilateral swap agreements 33 times (25 without extra-regional swaps of the large plus-three member countries China, Japan, and South Korea). CMIM member countries have so far been partners to swap agreements that account for a total volume of about \$825 billion (\$576 billion without extra-regional swaps of the plus-three member countries; see Figures 7 and 8).

The most relevant explanation seems to be the strong IMF link that drawing on CMIM still entails, which associates the regional body's use with painful stigmatization (i.e., Grimes 2015; Kawai/Park 2015). Particularly the case of South Korea in the aftermath of the financial crisis shows that neither the CMIM nor the IMF was considered appropriate to solve the shaky position of the South Korean won. Instead of drawing on the CMIM or the IMF in order to regain market confidence, South Korea agreed on an extra-regional swap agreement with the FED in 2008.

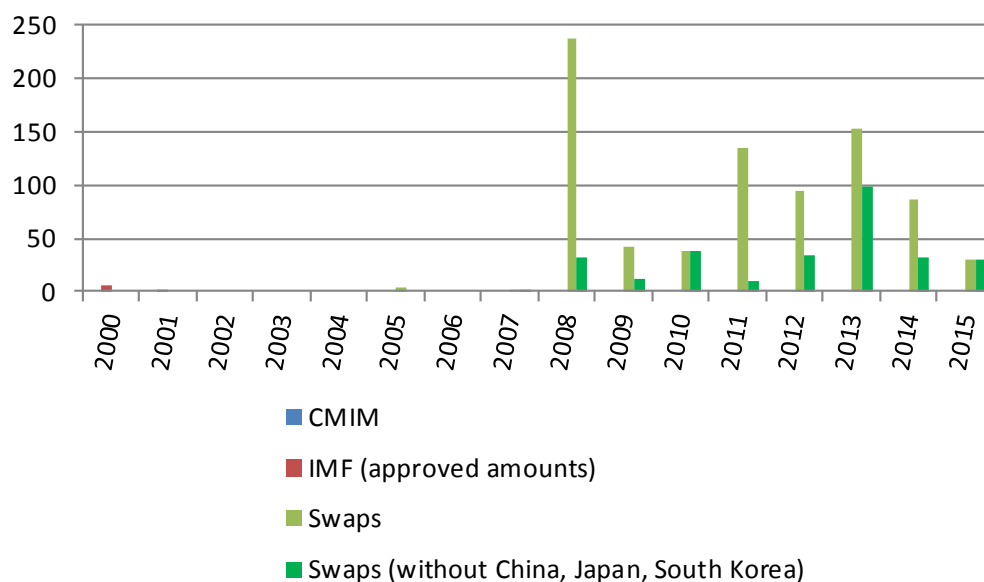
Thus, the CMIM is challenged with developing region-specific conditionality criteria and enforcement rules to discourage moral hazard. Yet, the CMIM member countries seem to find it difficult to agree on conditionality and enforcement rules and define the role of the IMF in the region, also confronted with negative experiences within the Euro area (cf. Dullien et al. 2013).

Figure 7: Number of Agreements by CMIM Member Countries with CMIM and IMF and of Swap Agreements



Sources: Authors' compilation based on IMF n.d.; central bank websites; Garcia-Herrero/Xia 2013; Destais 2014; Eichengreen/Kawai 2014; Hill/Menon 2014; various media reports.

Figure 8: Volumes of Approved IMF Programs and Swap Agreements (in billion \$)



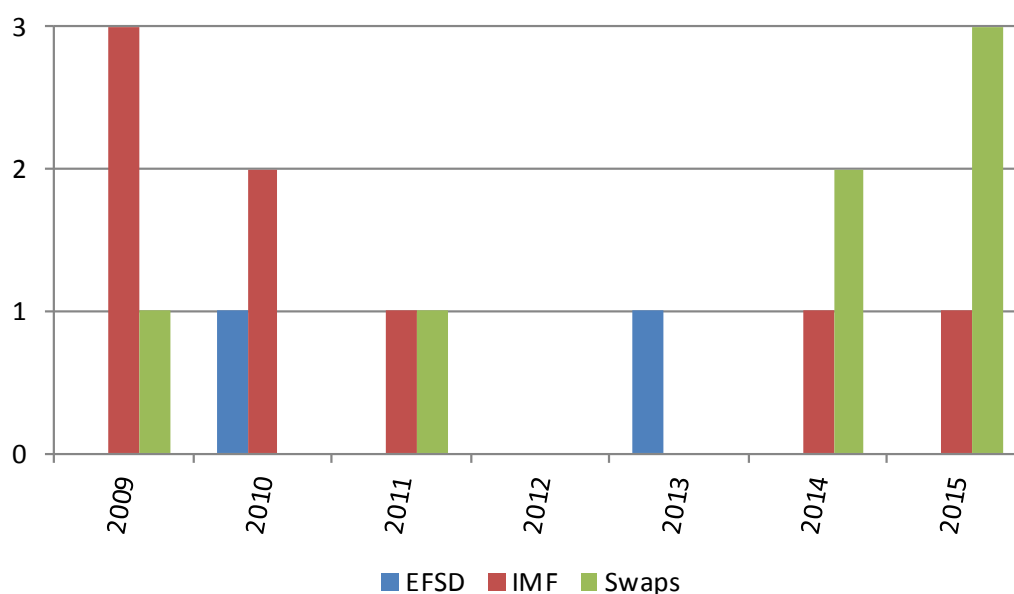
Sources: Authors' compilation based on IMF n.d.; central bank websites; Garcia-Herrero/Xia 2013; Destais 2014; Eichengreen/Kawai 2014; Hill/Menon 2014; various media reports.

The EFSD (see Annex I.D), as other RFAs, is less used by the large member countries but rather by smaller members. Compared to their IMF access limits, smaller member countries find a sufficient financing volume in the regional fund, also because EFSD member states can reallocate access limits to another member state if needed (EFSD n.d.e). In the case of the most recent financial credit to Belarus, this has been done by Russia. However, Russia itself as the largest member country would not find sufficient financing volumes in the EFSD. The fund has been used by two countries so far with an average amount of \$1.3 billion (see Figures 9 and 10). Except the Kyrgyz Republic, all member countries are partner to a swap agreement with China. EFSD member countries seem to make complementary use of all elements of the global safety net.

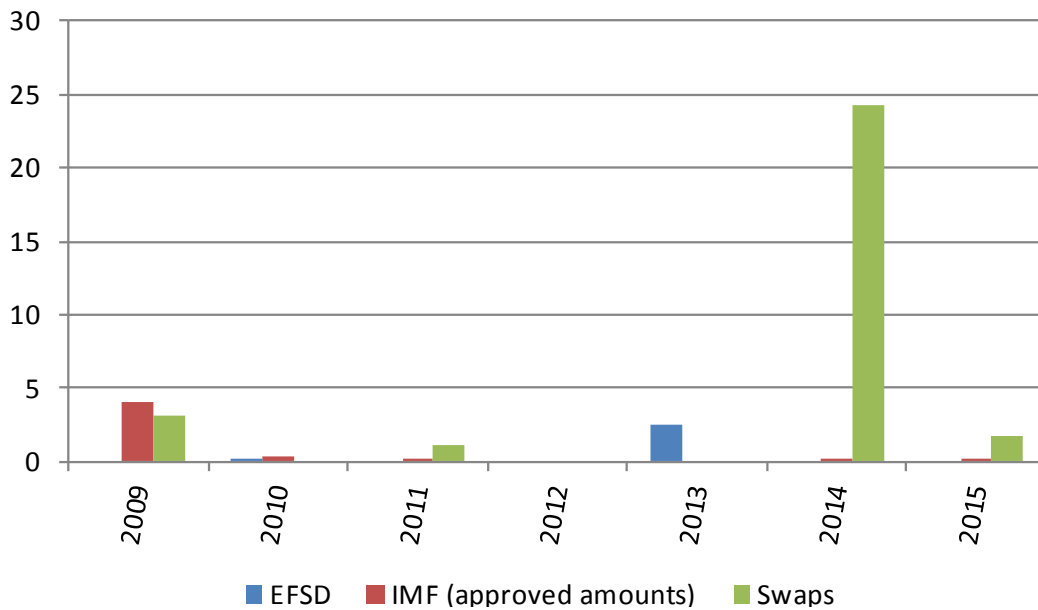
The case of the emergency financing in Belarus is the only case in our sample in which a country combined all three elements of the global financial safety net: The EFSD credit disbursement of about \$2.5 billion in 2011 was preceded by an IMF Stand-By Arrangement in 2009 of about \$2.3 billion, which was topped up by a swap line with the PBOC of about \$3 billion (Reuters 2009).

The above-mentioned case of the suspended payment of the last tranche of the financial credit to Belarus suggests that EFSD has a strong enforcement mechanism alongside its conditionality criteria. The longer time period that the EFSD seems to take until disbursement of funds may also play a role. Further, the outstanding dominance of Russia, who finances almost 90 percent of the fund's volume and holds respective voting power, may explain the reluctance of the smaller member countries to use the fund for emergency financing.

Figure 9: Number of Agreements by EFSD Member Countries with EFSD and IMF and of Swap Agreements



Sources: Authors' compilation based on IMF n.d.; EFSD n.d.a, n.d.b; Garcia-Herrero/Xia 2013; Destais 2014; Eichengreen/Kawai 2014; various media reports.

Figure 10: Volumes of Approved EFSD and IMF Programs and Swap Agreements (in billion \$)

Sources: Authors' compilation based on IMF n.d.; EFSD n.d.a, n.d.b; Garcia-Herrero/Xia 2013; Destais 2014; Eichengreen/Kawai 2014; various media reports.

5. Concluding: The Knots and Holes of the Scattered Global Financial Safety Net

In the significantly changed context since the global financial crisis, we find today's global financial safety net to be not a global but a structurally and geographically scattered net, whose full options are not equally available to all countries. The uneven patterns of the knots and holes of the safety net can be found on the regional and on the bilateral level. We empirically examine the patterns of use of the three elements of the global safety net. Thereby, we find three theoretically deduced criteria of adequate response to financial crises that matter when it comes to choosing an emergency financing source.

First, our empirical analysis shows that volume is a necessary criterion for the selection of options. Even if the overall financial volume provided by the RFAs is very small from a global perspective, one third of the countries in our sample can draw on amounts at their respective regional funds which come close to their IMF access limits. Especially the Latin American FLAR seems to be the first choice for its smaller member countries. Thus, the little attention given to RFAs in the literature when analyzing the global safety net underplays their role for small countries. However, at the same time, this means that the majority of countries do not find sufficient emergency financing volumes regionally. Out of these countries, only seven are partner to a swap line. Hence, when focusing only on the volume of financing, roughly half of the countries in our sample neither find sufficient liquidity in the RFA nor can they resort to a central bank currency swap, and thus have no alternative but to resort to the IMF. This may explain why about two thirds of the countries in the four major RFAs examined here did not use their regional safety net at all. When comparing the IMF and swaps, we see that despite the multiplication of IMF funds since the global financial crisis and

the corresponding increase of financing volume that member countries can draw on, in most cases, swaps offer significantly higher volumes to assist countries under stress.

Yet, volume explains only part of the pattern: conditionality plays an important role, too. This becomes clear especially when analyzing the behavior of Southeast Asian countries. Even though a large group of these countries could have found sufficient liquidity regionally, the CMIM was not drawn on at all. All of the countries which would find high regional access limits are partners to swap arrangements instead. Here it seems that not the volume, but the IMF involvement in the conditionality criteria makes members turn away from their regional option. Also in the case of the EFSD among former Soviet Union states, strong conditionality of liquidity provision may have motivated countries to choose options other than the regional one. For the IMF, it seems that its significant overhauling of policy conditionality and especially the introduction of emergency lines with so-called pre-conditionality does not make much difference. The majority of the countries in our sample seem to continue avoiding IMF program with its associated “stigma effect” when other adequate options are available.

Timeliness of liquidity provision is another relevant criterion that seems to point in a similar direction as policy conditionality when seeking to explain both the use of the IMF, the preference for swaps, and the differences in the use of FLAR and AMF in contrast to EFSD and CMIM.

At the same time, our analysis also shows that other factors beyond the analyzed lending criteria, which we find especially in the governance structure of RFAs, potentially exist. Attenuate power asymmetries such as in the EFSD, where Russia is clearly dominant as a member, may pose a problem to smaller member countries to make use of the regional mechanism. Asymmetry in terms of members’ economic size, such as in the CMIM, combined with higher risks due to a large volume of pooled resources, make finding of intraregional lending criteria difficult. A long-lasting cooperation may be able to create a sense of regional ownership, which seems to secure repayment without explicitly imposing lending conditions. We leave a deepening of this analysis to further studies.

To sum up, swaps, if available, seem to dominate the other elements of the global safety net in terms of all three criteria applied here. They are, however, only available to half of the countries in our sample. Part of RFA credit lines, especially from the longer standing regional arrangements FLAR and AMF, can take up with a swap option in terms of timeliness and policy conditionality. However, as mentioned above, their financing volume is negligible for the majority of the countries in our sample. RFAs seem to be replaced in part by swaps for those countries who cannot find sufficient access limits regionally.

What do these findings imply for the safety that the global financial safety net provides? The global safety net consists of highly irregular and scattered knots and the above-named holes. The widening of options through IMF reforms and the emergence of a huge number of voluminous central bank currency swaps in recent years do not make the global safety net safer overall. Rather, we observe a fragmentation and de-institutionalization of available options in terms of size and conditionality. The rules by which some countries are better protected from financial turmoil than others by extraordinarily voluminous swaps are defined by the interest of a small group of advanced and emerging-market economies, especially the USA, the Euro zone, China, Japan, and South Korea. This leaves a significant group of countries, around half of

the countries in our sample, in an unfavorable situation. Having too high financing requirements for RFAs and being not relevant enough as a partner for swaps, the IMF remains their only option, but seems to be a second-best institution compared to regional or bilateral mechanisms in terms of its lending terms. Hence, the lack of coordination of the global financial safety net has further increased global inequalities in financial stability provision.

References

- Aizenman, Joshua 2010: International Reserves and Swap Lines in Times of Financial Distress: Overview and Interpretations, in: ADBI Working Paper Series 192, Tokyo: Asian Development Bank Institute.
- Aizenman, Joshua/Jinjarak, Yothin/Park, Donghyun 2011a: International Reserves and Swap Lines: Substitutes or Complements?, in: *International Review of Economics & Finance* 20/1, 5-18.
- Aizenman, Joshua/Pasricha, Gurnain K. 2010: Selective Swap Arrangements and the Global Financial Crisis: Analysis and Interpretation, in: NBER Working Paper 14821, March 2009, Cambridge, MA: National Bureau of Economic Research.
- Alabi, Reuben A./Alemazung, Joy A./Bass, Hans H. et al. (eds) 2011: Africa and the Global Financial Crisis – Impact on Economic Reform Processes. African Development Perspectives Yearbook 2010/11, Münster: Lit Verlag.
- Arab Monetary Fund (AMF) n.d.a: Loan Commitments, in: <http://www.amf.org.ae/en/page/loan-commitments>; 16 August 2016.
- Arab Monetary Fund (AMF) n.d.b: Types of Lending, in: <http://www.amf.org.ae/en/page/types-lending>; 16 August 2016.
- Arab Monetary Fund (AMF) 2015: Annual Report 2014, Abu Dhabi: The Arab Monetary Fund.
- Birdsall, Nancy/Rojas-Suarez, Liliana (eds) 2004: Financing Development: The Power of Regionalism, Washington, DC: Center for Global Development.
- Cole, Harold L./Kehoe, Timothy J. 1996: A Self-fulfilling Model of Mexico's 1994-1995 Debt Crisis, in: *Journal of International Economics* 41/3-4, 309-330.
- Corsetti, Giancarlo/Pesenti, Paolo/Roubini, Nouriel 1998: Paper Tigers? A Model for the Asian Crisis, in: NBER Working Paper 6783, November 1998, Cambridge, MA: National Bureau of Economic Research.
- Destais, Christophe 2014: Central Bank Currency Swaps and the International Monetary System, in: Centre d'Etudes Prospectives et d'Informations Internationales Policy Brief 2014-05.
- Dullien, Sebastian/Fritz, Barbara/Mühlich, Laurissa 2013: Regional Monetary Cooperation in Developing Areas: Lessons to be Learnt from the Euro Crisis?, in: *World Economic Review* 2, 1-23.
- Eichengreen, Barry 2006: Insurance Underwriter or Financial Development Fund: What Role for Reserve Pooling in Latin America?, in: NBER Working Paper 12451, August 2009, Cambridge, MA: National Bureau of Economic Research.
- Eichengreen, Barry/Kawai, Masahiro 2014: Issues for Renminbi Internationalization: An Overview, in: ADBI Working Paper Series 454, January 2014, Tokyo: Asian Development Bank Institute.
- Eurasian Fund for Stabilization and Development (EFSD) n.d.a: Financial Credit to Belarus for strengthening the balance of payments, in: http://efsd.eabr.org/e/projects_acf_e/belarus_project_eng/?id_4=48895; 18 August 2016.
- Eurasian Fund for Stabilization and Development (EFSD) n.d.b: Financial Credit to Tajikistan to support social budget spending, in: http://efsd.eabr.org/e/projects_acf_e/Tajikistan_project_eng/; 18 August 2016.
- Eurasian Fund for Stabilization and Development (EFSD) n.d.c: EurAsEC ACF: Economic Stability in Belarus Depends on its Authorities' Commitment, in: http://efsd.eabr.org/e/info_acf_e/acfnews_info_acf_e/archive_acfnews_info_acf_e/?id_4=36443; 18 August 2016.
- Eurasian Fund for Stabilization and Development (EFSD) n.d.d: Financial Products, in: http://efsd.eabr.org/e/about_acf_eng/finproducts_acf_e/; 18 August 2016.
- Eurasian Fund for Stabilization and Development (EFSD) 2014: Financial Statements of the Eurasian Fund for Stabilization and Development 2014, in: http://efsd.eabr.org/e/documents_acf_e/Reports_acf_e/; 18 August 2016.
- The Federal Reserve (FED) n.d: Credit and Liquidity Programs and the Balance Sheet, in: https://www.federalreserve.gov/monetarypolicy/bst_liquidityswaps.htm; 18 August 2016.
- Fondo Latinoamericano de Reservas (FLAR) n.d.a: Lines of Credit, in: <https://www.flar.net/ingles/contenido/contenido.aspx?catID=293&conID=5715>; 18 August 2016.
- Fondo Latinoamericano de Reservas (FLAR) n.d.b: Member Countries, in: <https://www.flar.net/ingles/contenido/contenido.aspx?catID=216&conID=661>; 18 August 2016.

- Fondo Latinoamericano de Reservas (FLAR)* 2014: Financial Statements December 2014, in: <https://www.flar.net/ingles/contenido/contenido.aspx?catID=295&conID=5721&pagID=2507>; 18 August 2016.
- Fritz, Barbara/Dullien, Sebastian/Mühlich, Laurissa* 2016: The IMF to the Rescue: Did the Euro Area benefit from the Fund's Experience in Crisis fighting? (forthcoming).
- Garcia-Herrero, Alicia/Xia, Le* 2013: China's RMB Bilateral Swap Agreements: What Explains the Choice of Countries?, in: Bank of Finland Discussion Papers 12/2013.
- Gabel, Ilene* 2011: Not Your Grandfather's IMF: Global Crisis, 'Productive Incoherence' and Developmental Policy Space, in: Cambridge Journal of Economics 35/5, 805-830.
- Grimes, William W.* 2015: East Asian Financial Regionalism: Why Economic Enhancements Undermine Political Sustainability, in: Contemporary Politics 21/2, 145-160.
- Hawkins, Adam/Rahman, Jyoti/Williamson, Thomas* 2014: Is the Global Financial Safety Net at a Tipping Point to Fragmentation?, in: Economic Round-up 1/2014, 1-20.
- Helleiner, Eric* 2014: The Status Quo Crisis: Global Financial Governance After the 2008 Meltdown, Oxford: Oxford University Press.
- Henning, Randall C.* 2002: East Asian Financial Cooperation, in: Policy Analyzes in International Economics 68, Washington, DC: Peterson Institute for International Economics.
- Hill, Hal/Menon, Jayant* 2014: Financial Safety Nets in Asia: Genesis, Evolution, Adequacy and Way forward, in: Kawai, Masahiro/Morgan, Peter J./Rana, Pradumna B. (eds): The Global Economic Architecture: The Asian Perspective, Cheltenham: Edward Elgar Publishing, 83-111.
- Holland, Dawn/Portes, Jonathan* 2012: Self-defeating Austerity?, in: National Institute Economic Review 222/1, F4-F10.
- Imbs, Jean/Mauro, Paolo* 2007: Pooling Risk among Countries, IMF Working Paper 07/132, Washington, DC: International Monetary Fund.
- International Monetary Fund (IMF)* n.d.: IMF Members' Financial Data by Country, Washington, DC: International Monetary Fund, in: <http://www.imf.org/external/np/fin/tad/exfin1.aspx>; 18 August 2016.
- International Monetary Fund (IMF)* 2009: IMF Implements Major Lending Policy Improvements, Washington, DC: International Monetary Fund, in: <https://www.imf.org/external/np/pdr/fac/2009/032409.htm>; 18 August 2016.
- International Monetary Fund (IMF)* 2013: Stocktaking of the Fund's Engagement with Regional Financial Arrangements, Washington, DC: International Monetary Fund, in: <https://www.imf.org/external/np/pp/eng/2013/041113b.pdf>; 18 August 2016.
- International Monetary Fund (IMF)* 2014: Review of Flexible Credit Line, the Precautionary and Liquidity Line, and the Rapid Financing Instrument, Washington, DC: International Monetary Fund.
- International Monetary Fund (IMF)* 2015: IMF's Financial Resources and Liquidity Position 2013 – June 2015, Washington, DC: International Monetary Fund, in: <https://www.imf.org/external/np/tre/liquid/2015/0615.htm>; 18 August 2016.
- International Monetary Fund (IMF)* 2016a: Factsheet IMF Lending, Washington, DC: International Monetary Fund, in: <http://www.imf.org/external/np/exr/facts/howlend.htm>; 18 August 2016.
- International Monetary Fund (IMF)* 2016b: Factsheet IMF Crisis Lending, Washington, DC: International Monetary Fund, in: <https://www.imf.org/external/np/exr/facts/crislend.htm>; 18 August 2016.
- International Monetary Fund (IMF)* 2016c: Factsheet Where the IMF Gets its Money, Washington, DC: International Monetary Fund, in: <https://www.imf.org/external/np/exr/facts/finfac.htm>; 18 August 2016.
- International Monetary Fund (IMF)* 2016d: Factsheet IMF's Response to the Global Economic Crisis, Washington, DC: International Monetary Fund, in: <https://www.imf.org/external/np/exr/facts/changing.htm>; 18 August 2016.
- International Monetary Fund (IMF)* 2016e: Factsheet IMF Quotas, Washington, DC: International Monetary Fund, in: <http://www.imf.org/external/np/exr/facts/quotas.htm>; 18 August 2016.
- International Monetary Fund (IMF)* 2016f: Factsheet Special Drawing Right SDR, Washington, DC: International Monetary Fund, in: <http://www.imf.org/external/np/exr/facts/sdr.htm>; 18 August 2016.
- Kawai, Masahiro/Lombardi, Domenico* 2012: Financial Regionalism, in: Finance & Development 49/3, 23-25.
- Kawai, Masahiro/Park, Yung C.* 2015: Financial and Monetary Cooperation in East Asia, in: Kawai, Masahiro/Park, Yung C./Wyplosz, Charles (eds): Monetary & Financial Cooperation in East Asia – The State of Affairs after the Global and European Crisis, Oxford: Oxford University Press, 11-51.

- Krugman, Paul* 1979: A Model of Balance of Payments Crises, in: *Journal of Money, Credit and Banking* 11/1, 311-325.
- Krugman, Paul* 1999: Currency Crises, in: *Feldstein, Martin* (ed.): *International Capital Flows*, Chicago, IL: University of Chicago Press, 421-440.
- Li, Cindy* 2015: Banking on China through Currency Swap Agreements, in: <http://www.frbsf.org/banking/asia-program/pacific-exchange-blog/banking-on-china-renminbi-currency-swap-agreements/>; 18 August 2016.
- Machinea, José L./Titelman, Daniel* 2007: Less Volatile Growth? The Role of Regional Financial Institutions, in: *CEPAL Review* 91, 7-27.
- McKay, Julie/Volz, Ulrich/Wölfinger, Regine* 2011: Regional Financing Arrangements and the Stability of the International Monetary System, in: *Journal of Globalization and Development* 2/1, Article 5.
- McNamara, Kathleen* 2016: Regional Monetary and Financial Governance, in: *Börzel, Tanja A./Risse, Thomas* (eds): *The Oxford Handbook of Comparative Regionalism*, Oxford: Oxford University Press, 351-373.
- Mühlich, Laurissa* 2014: Advancing Regional Monetary Cooperation - The Case of Fragile Financial Markets, in: *Tomann, Horst/Hölscher, Jens* (eds): *Studies in Economic Transition*, Houndmills, Basingstoke: Palgrave Macmillan.
- Obstfeld, Maurice* 1996: Models of Currency Crises with Self-fulfilling Features, in: *European Economic Review* 40/1, 1037-1047.
- Ocampo, José A./Titelman, Daniel* 2010: Subregional Financial Cooperation: The South American Experience, in: *Journal of Post Keynesian Economics* 32/4, 249-268.
- Ocampo, José A.* 2006: Regional Financial Cooperation: Experiences and Challenges, in: *Ocampo, José A.* (ed.): *Regional Financial Cooperation*, Washington, DC: Brookings Institution Press, 1-39.
- Reuters* 2009: UPDATE 2-China Sets 20 Bln Yuan Currency Swap with Belarus, 11 March, in: <http://in.reuters.com/article/china-belarus-idINPEK1922920090311>; 18 August 2016.
- Rhee, Changyong/Sumulong, Lea/Vallée, Shanin* 2013: Global and Regional Financial Safety Nets: Lessons from Europe and Asia, *Bruegel Working Paper* 2013/06, Brussels: Bruegel.
- Rose, Andrew K.* 2007: A Stable International Monetary System Emerges: Inflation Targeting is Bretton Woods, Reversed, in: *Journal of International Money and Finance* 26/5, 663-681.
- Rosero, Luis D.* 2014: Regional Pooling of International Reserves: The Latin American Reserve Fund in Perspective, in: *Latin American Policy* 5/1, 62-86.
- Volz, Ulrich* 2016: Toward the Development of a Global Financial Safety Net or a Segmentation of the Global Financial Architecture?, in: *Emerging Markets Finance and Trade* (forthcoming).
- Williamson, John* 1976: The Benefits and Costs of the International Monetary Non-system, in: *Bernstein, Edward M. et al.* (eds), *Reflections on Jamaica, Essays in International Finance* 115, Princeton: International Finance Section, Princeton University.
- Womack, Brandly* 2016: *Asymmetry and International Relationships*, Cambridge: Cambridge University Press.
- Wyplosz, Charles* 2007: The Foreign Exchange Reserves Buildup: Business as Usual, Paper prepared for the Workshop on Debt, Finance and Emerging Issues in Financial Integration to be held on 6-7 March 2007 at the Commonwealth Secretariat in London, in: <http://www.un.org/esa/ffd/events/2007debtworkshop/Wyploz.pdf>; 18 August 2016.
- Zhu, Yihong* 2015: Swap Agreements & China's RMB Currency Network, in: <http://cogitasia.com/swap-agreements-chinas-rmb-currency-network/>; 18 August 2016.

Annexes

Annex I: Case Studies on Regional Financial Arrangements in Latin America, Asia, and Africa, in: <http://www.lai.fu-berlin.de/disziplinen/oekonomie/Annexe-RFAs/Annex-I.pdf>.

Annex II: Cases, in: <http://www.lai.fu-berlin.de/disziplinen/oekonomie/Annexe-RFAs/Annex-II.pdf>.

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